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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,849	07/12/2000	Kiyotaka Iwata	U 012852-3	2520

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EXAMINER

SCHIFFMAN, JORI

ART UNIT PAPER NUMBER

3677

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/614,849

Applicant(s)

IWATA, KIYOTAKA

Examiner

Jori R. Schiffman

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004 and 14 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17, 19, and 21 is/are allowed.
- 6) ☒ Claim(s) 18, 20 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the maximum height of the edge of the locking projection from the bearing surface of the head being nearly equal to and less than P/n as recited in claim 17 must be shown or the feature canceled from the claim. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rieschick (US 844750) in view of Vera (US 1923647).

Regarding claim 18, Rieschick discloses a self-locking fastener 1 comprising a head having a locking function 4 consisting of n locking recesses at equal angular intervals in a bearing surface of the head, the locking recesses being separated from one

another by planar portions of the bearing surface, depths of the locking recesses from the bearing surface decreasing gradually in a direction opposite a fastening direction in which the head is rotated for the fastening to minimum depths, edges 6 at joints of end walls 5 of the locking recesses at positions of maximum depths from the bearing surface, the end walls 5 extending asymmetrically steeply to the bearing surface as compared to the decreasing gradually wherein, when the bearing surface contacts and compresses the lockable member, the edges function so that a portion of the lockable member is forced to bulge into at least one of the locking recesses in a small protrusion as though a locking protrusion had sunk into the lockable member, a total area of the planar portions being larger than a total planar projected area of the locking recesses. Rieschick fails to disclose the fastener being a bolt with a cylindrical threaded part extending from the head and provided with an external thread of a pitch P for mating with an internal thread of a lockable member. Vera teaches the equivalence of a locking function being provided on both a bolt and nut. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to provide the locking recesses of Rieschick on a bolt instead of a nut as disclosed in Vera since they are recognized equivalents in the art. Depending upon the application, the bolt could have a small diameter not larger than 6 mm.

As to claim 20, modified Rieschick discloses the recesses being formed in a peripheral region of the bearing surface of the head

Referring to claim 22, modified Rieschick discloses the recesses extending from a circumference of the head to the threaded part.

***Allowable Subject Matter***

4. Claims 17, 19, and 21 are allowed.
5. The following is an examiner's statement of reasons for allowance: The prior art of record fails to disclose or suggest a self-locking bolt having a threaded part with a pitch  $P$  and having a locking function consisting of  $n$  locking projections, the heights of the locking projections from a bearing surface of the head increasing gradually in a direction opposite a fastening direction, and decreasing asymmetrically steeply as compared to the increasing gradually from the edges, wherein the maximum heights of the edges are nearly equal to or less than  $P/n$ .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

6. Applicant's arguments with respect to claims 18, 20, and 22 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

7. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori R. Schiffman whose telephone number is 703-305-4805. The examiner can normally be reached on M-Th, and every other Friday.

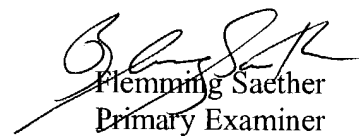
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3677

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jori R. Schiffman  
Examiner  
Art Unit 3677

JS

  
Flemming Saether  
Primary Examiner